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ABSTRACT

This study is based on the evaluation of the Methods Experience Project (MEP) in the College of Education at Bowling Green State University, Bowling Green, Ohio. Specifically, the study identifies and describes the nature and direction of possible changes in selected preservice teacher behavior which occurred during the project and explores the relationship of these changes to teaching behavior. The person-oriented variables of openness vs. closedness; generalized expectancies for internal or external control of reinforcement; and personality traits were investigated. The role-oriented variables of situational role conflict, personal role conflict, teaching performance, and teaching attitude were also explored in 157 elementary education majors. Analysis of data reveal a) the MEP students reflect both greater situational and personal role conflicts than the control students; b) MEP students have personalities that are better suited for teaching than the control students; and c) no differences in teaching behavior exist among students, although the MEP students develop a more positive attitude toward teaching than the control students do. The study emphasizes the need for further research and evaluation and presents questions that would delineate areas of further investigation into preservice teacher education curriculum. (Seventeen tables of data are included.) (BRB)

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IN DEFENSE OF THE PRACTICAL: AN EVALUATION OF EFFECTS AND RELATIONSHIPS IN ONE COMPONENT OF A TEACHER EDUCATION PROGRAM

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Spasmodically with the entry of insitutions of higher education into the field of teacher education, skeptics have issued the challenge: "Can the university effectively prepare teachers?" More and more frequently in the last decade the answer from schoolmen outside the ivory towers - and even from a few heretics within - has been a resounding "No!"[1]

The issue can be argued both philosophically and empirically, but it is the latter mode which is accorded greater credibility in today's society - as witness the NCATE Standards for the accreditation of teacher education.[2]

However, examination of the university's viability in pre-service teacher education on an empirical basis requires more than a frantic tokenistic response to pressures from without. It necessitates a continuous search for observable, significant, and consistent correlations between what occurs under the direction of colleges of teacher education and valid measures of in-service teaching. This is a task compounded by numerous complexities of design and implementation, not the least of which has been the exclusivity which in the past has been bestowed upon the experimental model in the design of evaluation efforts.

It is thus a task frequently avoided in colleges of education. However, despite the difficulties and ambiguities inherent in the venture, it must be attempted. Too long unaccepted by teacher educators has been the belief that evaluation, the process of information gathering for aiding and abetting decision-making,[3] must become as integral a part of curriculum as is instruction. Integrity cannot be achieved in a teacher education program without the inclusion of an evaluation component.

In recent years growing awareness of this need has led to an expansion of research-evaluation efforts within numerous teacher education institutions.[4] Findings from such studies are making it possible to map, although perhaps as yet in incomplete and cloudy form, the relationships between curriculum design and implementation, between process and product, in each of these institutional settings. These findings, while often not generalizable, are of value in suggesting potentially productive avenues of investigation for other institutions to consider in conceptualizing and modifying their own evaluation procedures.

The study reported here represents one segment of this expanding evaluation effort.

Introduction to the Study

To meet the growing complexities of preparing teachers to function more effectively in a variety of roles and contexts, many educational theorists have recommended an increasing number of direct experiences be incorporated into the professional education sequence of teacher education programs.[5] The traditional student teaching experience, it is hypothesized is both too limited and too late, perhaps necessary but certainly not sufficient to bring the pre-service teacher into frequent and recurring contact with reality so that he may both demonstrate a commitment to and a proficiency for continued professional growth.[6]

The inability of students to transfer theory into practice without opportunities to act in real situations and reflect upon the consequences of those actions - in other words to restructure experience - is a common problem recognized both by teacher educators and by teacher education students.

In response to this apparent need, the Methods Experience Project was originated in the College of Education at Bowling Green State University as an alternative to the traditional campus-centered methods courses required of prospective elementary teachers at

that institution. Rather than enroll in each methods course as a separate unit, students can complete all their methods courses during one quarter. During this quarter they spend three days of each week in one of several participating schools; on the remaining two days of the school week they return to campus for regularly scheduled classes with each of their methods instructors. The university faculty members working with these students visit public school classrooms during the week, observe their students' teaching behaviors, and attempt to aid students in coping with the demands of each unique teaching-learning situation as well as in becoming proficient in a particular area of instruction.

In theory, the approach being undertaken at Bowling Green appeared to be warranted. Empirically, however, it remained to be tested.

The Problem

The specific problem with which this evaluation study was concerned was the identification and description of the nature and direction of possible changes in selected elements of pre-service teacher behavior which occur during participation in methods courses and the relationship of these changes to teaching behavior. Also of concern was the

effectiveness of different intervention models in eliciting behavioral change.

The questions addressed in the study represent a recognition of the need to examine continuously the processes and outcomes of teacher education programs in relation to the purposes they are intended to serve in order to have increasingly valid information upon which to base decision-making in the improvement of such programs.

The objectives of this evaluation inquiry were to explore (1) the nature and extent of changes occurring in selected ideographic and nomothetic dimensions thought to be directly related to teaching behavior, (2) the extent of change occurring in teaching behavior, (3) the relationship of variations in selected ideographic and nomothetic dimensions to teaching behavior, and (4) the effectiveness of each intervention model as a temporary system for eliciting behavioral change in participants.[7]

The Research-Evaluation Design

A heuristic design was employed based upon the assumption that the questions which will yield the "best" information are not yet fully known - the intent was to probe a number of potentially productive avenues of investigation so as to obtain a more

accurate representation of reality and to minimize the distortion which is likely to occur in the simplification of reality entailed in the implementation of a highly controlled experimental design.[8]

The ideographic or person-oriented variables to be investigated were operationally defined as scores on the D-Scale,[9] a measure of openness vs. closedness, the I-E Scale,[10] a measure of generalized expectancies for internal or external control of reinforcement, and the 16PF,[11] a measure of personality traits. Nomothetic or role-oriented variables were operationalized through scores obtained upon two measures of role conflict developed for use in this study; Inventory I, a measure of situational role conflict, and Inventory II, a measure of personal role conflict.[12] Teaching behavior was defined as scores on the Teaching Situation Reaction Test,[13] a measure of a four dimensional construct of teaching performance, and teaching attitude by the Minnesota Teacher Attitude Inventory,[14] a measure of attitudes shown to be related to effective student-teacher relationships.

Subjects were 157 elementary education majors enrolled in the College of Education at Bowling Green State University. Sixty-six of the subjects remained in the traditional teacher education course sequence.

They are designated as Group IV and represent all the elementary education majors lled in three sections of one methods course during one quarter. Most of these students were concurrently enrolled in at least one other methods course or had completed one or more such courses.

Ninety-one of the students were enrolled in the optional offering, the Methods Experience Project, for which they had volunteered. These students were divided into three groups each of which was assigned to classrooms in a different elementary school in a near-by urban school system. They are designated as Group I (N=38), Group II (N=36), and Group III (N=17).

Pre-test and post-test observations were made for each of the variables indicated above. Analysis of data was performed utilizing one and two-way analysis of variance, t-tests, and analysis of covariance. Critical significance level was set at $<.05$.

Findings

Initial Differences among Groups. Only two initial differences of significance were apparent among the four groups. Group IV scored significantly lower on Factor M of the 16PF than did Groups I or II. The mean for the total MEP group was also significantly

lower than that of Group IV. Since this factor has been shown to have a substantial effect in predicting generalized teaching effectiveness,[15] it appears that the MEP students may have been initially more personalistically suited to teaching than the students who remained on campus.

However, Group II of the Methods Experience Project demonstrated a less positive attitude toward teaching at the outset of the quarter than did either Group I or II. Neither the Group II mean nor the mean of the combined scores of the MEP groups differered significantly from that of the Campus group.

Differences within Groups. At the close of the period of intervention, Group I showed less authoritarianism and reflected more "astuteness and worldliness (Factor N) than was initially demonstrated. Group II showed no changes of any significance on any of the ideographic variables by the end of the ten weeks. Group III displayed a change in Factor H toward the positive "adventurous, thick-skinned, socially bold" pole. Group IV also became less authoritarian and in addition demonstrated increased maturity and ego strength.[16]

Both Group I and II showed a heightening of personal role conflict but Group III registered no significant change. In contrast, Group IV showed no

change in personal role conflict but demonstrated a lessening in situationally perceived role conflict.

There was no significant change registered by any of the groups in teaching behavior, and only Group II showed a change in teaching attitude, a move toward the positive.

Final Differences Among Groups.[17] In comparison to both Group I and Group IV, Group II was more closed at the termination of the intervention period; however, no significant differences existed between the total MEP group and the Campus group on this variable. Group I was significantly different from all other groups on Factor N in the direction of greater "astuteness, worldliness, and shrewdness," while Group II was significantly higher than Group IV on Factor O described as "assured, placid, secure and complacent."

The MEP groups collectively and singly reflected both greater situational role conflict and personal role conflict than did Group IV.

No differences were observed in teaching behavior among any of the groups, but the MEP groups developed a more positive attitude toward teaching than did the Campus group.

Discussion

From this exploratory effort there is clear indication that the extent of role conflict perceived and experienced by subjects in the MEP groups differed considerably from that associated with participation in the Campus group. But there is little support to be found for the contention that either the MEP models or the Campus model appreciably affected the ideographic variables observed or the teaching behavior of these subjects. And there is only weak support for the efficacy of the MEP models in effecting change in teaching attitude; in fact, this support is derived primarily through the influence of the change exhibited within one MEP group.

Thus the null hypothesis appears more tenable - that neither intervention model had any extensive effect upon these subjects either in terms of their personal orientation or their teaching behavior and attitude; that, in fact, this component of the teacher education program did little if anything to produce effective teachers.

However, at this point, it would be unwise to accept that hypothesis as the primary outcome of the evaluation. First attention should be given to a number of provocative questions which emerged from

further examination of the data and which suggest additional concerns and alternate explanations for the findings reported.

Recommendations for Further Study

Internality-Externality. Of special interest in the data gathered in this study were the high means of the scores of all four groups of these prospective elementary teachers on the measure of generalized expectancies of control of reinforcement. These scores represent considerably greater externality than that reported for the various populations studied by Rotter.[18] Furthermore, scores on the I-E Scale for these subjects showed no significant changes over time for any of the groups suggesting this is possibly a very stable trait or at least one unaffected by the intervention models applied here.

These observations indicating a tendency toward externality may be of importance upon at least three considerations: (1) Scores on the I-E Scale for this study were negatively correlated with scores on the TSRT thus offering support for the existence of a relationship of this variable to the demonstration of effective teaching behavior, (2) Rotter has indicated that subjects high in externality may

be less responsive to educative influences,[19] therefore, such subjects may be less affected by purposive instructional efforts than would subjects more internal in their expectancies for control of reinforcement, and (3) if internality-externality is a critical variable in determination of teaching behavior and attitude, then selection of students according to this variable and/or focusing instructional efforts upon effecting change in this variable would be supportable practices in teacher education curricula.

Effects of Intervention upon Teaching Behavior. The apparent lack of change in teaching behavior and attitude as indicated in this evaluation cannot and, of course, should not be ignored. But the fact that few significant differences were found on these variables should not be taken to mean that intervention was necessarily unsuccessful. Before absence or presence of change can be used as the basis for making inferences about the effect of intervention, it may be germane to draw attention to the fact that final observations were taken immediately following the close of the intervention period. The actual effects of experiences undergone in a teacher education program may be synergistic in nature; changes may not appear until the subjects are subsequently observed

in different contexts.

There is also, of course, the alternate explanation that the instruments which were utilized were not sensitive to the changes which did occur.

Some support for these possibilities, the delayed appearance of discernible differences as well as the inappropriateness of the instrumentation, has been found in another study which indicated that ratings of student teachers by their university supervisors, cooperating teachers, and principals were significantly higher for students who had been engaged in the Methods Experience Project than for students who had followed the traditional methods course sequence.[20]

It may be necessary to apply other operational definitions of effective teaching behavior and to follow subjects through subsequent experiences before any firm statements can be made.

Reality Shock and Teaching Behavior and Attitude. Another factor identified in this set of observations may also be confounding the results. Numerous studies have shown that the reality shock which accompanies entry into the business of full-time teaching often contributes to a lessening in effectiveness of teaching performance as well as to an increase in negative attitudes toward teaching.[21] Since data from this study have shown a significant rise in personal role conflict

on behalf of the MEP groups and significant differences between the MEP groups and the Campus group on this variable at the close of intervention, it seems reasonable to conclude that the MEP groups were subjected to a degree of reality shock not experienced by the Campus group. If this is the case, many students might well be expected to demonstrate less effective teaching behavior and less positive teaching attitudes following such exposure. But such early initiation into the reality of teaching might also enable these subjects to avoid the deleterious effects which are often associated with the first years of full-time teaching and permit them more ably to cope with and profit from subsequent experiences. It could concurrently encourage self-selection out of the profession, and, if so, whether this would entail the more promising or the less promising candidates would need to be ascertained.

Post-test Variations among MEP Groups. The differences that were noted among the three MEP groups at the close of the intervention need to be given closer scrutiny. Although all subjects in these three groups spent three days each week in a public school classroom and returned to campus on two days for scheduled on-campus classes, there is no reason to assume that the three MEP models were comparable.

Each group of students was confronted with a different and to a certain extent unique public school context; no two groups had an identical team of university instructors although there were duplications within teams.

When teaching behavior was analyzed by blocking for schools, no main effects were yielded, but this may only reflect inadequacy of control in the research-evaluation design. Untested as well has been the effect of variations in faculty teams upon the performance of students. However, analysis of subjective participant-observer records submitted by these subjects points toward the substantial influence of these two variables - particularly with respect to affective outcomes.

School, as well as faculty effects upon emerging teaching behaviors and attitudes need much more careful attention.

Questions

At least five potentially productive questions have thus emerged from this initial evaluative effort and now make feasible more precise delineation of areas of investigation likely to provide useful and valid information for decision-making with respect

to the improvement of curricula in the pre-service education of elementary teachers:

1. Are generalized expectancies for internal versus external control of reinforcement a critical intervening variable in the determination of effective teaching behavior?
2. Do pre-service elementary education students tend to be highly external in their generalized expectancies for internal versus external control of reinforcement?
3. To what extent do specific variations in school contexts in which students are placed in correlation with instruction in methodology of teaching differentially affect their teaching behavior and attitude?
4. To what extent do specific variations in faculty teams who work with students in such contexts differentially affect the teaching behavior and attitude of those students?
5. Are there effects of instruction in the

methods component of the teacher education program which are not apparent at the close of that instructional period but which can be identified in subsequent situational contexts?

Implications of the Evaluation Study

In conclusion it must again be made clear that this study was immediately concerned with the evaluation of a specific component of the teacher education curriculum presently being implemented at Bowling Green State University. However, its broader purpose was to illustrate the need for continuous research-evaluation efforts in providing valid, meaningful, and timely information to aid in making curricular decisions. If, in the course of the effort, some potentially more generalizable findings have also emerged, that will add to the worth of the endeavor.

As Schwab has indicated, curriculum is the language of the practical;[22] the curriculum planner and implementer is faced with the need to make choices in problematic settings for which there are no valid, fully applicable theories, only possible alternatives each of which is associated with a range of probable consequences. Thus evaluation, as an integral part of curriculum development in teacher education, must

also utilize the language of the practical. For it is with divergent values, varying contexts, inequalities of input, alternate processes, and even diverse products that teacher education curricula are concerned. It is information with respect to the unique and dynamic combination of variables which exist within the context of a particular institution that decision-makers in that institution need; they cannot wait for overarching theories which subsume all instances.

Institutionally defined efforts therefore must provide the impetus for continuous improvement of each teacher education program if university controlled teacher education curricula are to derive empirical validation and preserve their diversity and creativity in the process.

Hopefully the study reported here may both provide useful information and serve to encourage college of education faculty members in all areas to join actively in continuing such efforts.

TABLE 1

Analysis of Variance on Factor M (Pretest)

Source of Variation	SS	df	MS	F	
Between	50.261	3	16.753	3.413	($p < .05$)
Within	750.859	153	4.907		
Total	801.121	156			

$F(3,153;.05) = 2.67$

TABLE 2

Analysis of Variance on MTAI (Pretest)

Source of Variation	SS	df	MS	F	
Between	5908.937	3	1969.645	3.130	($p < .05$)
Within	96275.250	153	629.250		
Total	102184.187	156			

$F(3,153;.05) = 2.67$

TABLE 3

D-Scale - Means and t-Tests

	ΣX	ΣX^2	$\bar{X}$	N	t
Group I					
Pretest	5415.0	788599.0	142.50	38	2.37
Posttest	5137.0	718109.0	135.18	38	($p < .05$)
Group IV					
Pretest	9928.0	1524094.0	150.42	66	3.59
Posttest	9483.0	1398515.0	143.68	66	($p < .01$)

TABLE 4

Factor C - Means and t-Tests

	ΣX	ΣX^2	$\bar{X}$	N	t
Group IV					
Pretest	475.0	3751.0	7.196	66	-2.57
Posttest	514.0	4292.0	7.787	66	($p < .05$)

TABLE 5

Factor H - Means and t-Tests

	ΣX	ΣX^2	$\bar{X}$	N	t
Group III					
Pretest	96.0	706.0	5.647	17	-2.097
Posttest	107.0	821.0	6.294	17	($p < .01$)

TABLE 6

Factor N - Means and t-Tests

	Group I				
	ΣX	X^2	$\bar{X}$	N	t
Pretest	162.0	820.0	4.263	38	-3.556
Posttest	206.0	1358.0	5.421	38	($p < .01$)

TABLE 7

Inventory I - Means and t-Tests

	Group IV				
	ΣX	X^2	$\bar{X}$	N	t
Pretest	4855.0	366259.0	73.560	66	3.062
Posttest	4550.0	323450.0	68.939	66	($p < .01$)

TABLE 8

Inventory II - Means and t-Tests

	Group I				
	ΣX	X^2	$\bar{X}$	N	t
Pretest	2743.0	203491.0	72.184	38	-3.256
Posttest	3016.0	244192.0	79.368	38	($p < .01$)
	Group II				
Pretest	2701.0	210601.0	75.027	36	-4.446
Posttest	3017.0	260401.0	83.805	36	($p < .01$)

TABLE 9

MTAI - Means and t-Tests

	Group II				
	ΣX	ΣX^2	$\bar{X}$	N	t
Pretest	1568.0	99284.0	43.555	36	-3.417
Posttest	1942.0	132226.0	53.944	36	($p < .01$)

TABLE 10

D-Scale - t-Tests for Adjusted Group Means (Posttest)

	I		II		III		IV	
Group I	0.0							
Group II	2.503	$<.05$	0.0					
Group III	1.884	n.s.	0.109	n.s.	0.0			
Group IV	0.620	n.s.	2.202	$<.05$	1.560	n.s.	0.0	
Total MLP							1.504	n.s.

TABLE 11

Factor N - t-Tests for Adjusted Group Means (Post test)

	I		II		III		IV	
Group I	0.0							
Group II	2.458	$<.05$	0.0					
Group III	2.747	$<.01$	0.802	n.s.	0.0			
Group IV	3.715	$<.001$	0.889	n.s.	-0.190	n.s.	0.0	
Total MLP							1.786	n.s.

TABLE 12

Factor O - t-Tests for Adjusted Group Means (Posttest)

	I		II		III		IV	
Group I	0.0							
Group II	-1.064	<.10	0.0					
Group III	0.322	n.s.	1.632	n.s.	0.0			
Group IV	0.974	n.s.	2.808	<.01	0.379	n.s.	0.0	
Total MEP							1.751	n.s.

TABLE 13

Inventory I - t-Tests for Adjusted Group Means (Posttest)

	I		II		III		IV	
Group I	0.0							
Group II	0.049	n.s.	0.0					
Group III	1.269	n.s.	1.219	n.s.	0.0			
Group IV	4.204	<.001	4.066	<.001	1.802	n.s.	0.0	
Total MEP							4.382	<.001

TABLE 14

Inventory II - t-Tests for Adjusted Group Means (Posttest)

	I		II		III		IV	
Group I	0.0							
Group II	-0.985	n.s.	0.0					
Group III	2.135	<.05	2.899	<.01	0.0			
Group IV	3.072	<.001	4.706	<.001	0.456	n.s.	0.0	
Total MEP							3.701	<.001

TABLE 15

MAI - t-Tests for Adjusted Group Means (Posttest)

	I		II		III		IV
Group I	0.0						
Group II	-0.470	n.s.	0.0				
Group III	-0.210	n.s.	0.168	n.s.	0.0		
Group IV	1.450	n.s.	1.964	n.s.	1.313	n.s.	0.0
Total MLP							2.133 < .05

TABLE 16

I-E Scale - Mean Scores

	N	Pretest	Posttest
Group I	38	11.605	11.763
Group II	36	12.138	11.222
Group III	17	11.470	11.529
Group IV	66	10.575	10.924

TABLE 17

Two-Way Analysis of Variance on TSRT (Posttest)

Source of Variation	SS	df	MS	F	
I-E Scale	1114.00	2	557.00	3.231	($p < .05$)
Group	371.00	3	123.66	0.717	n.s.
Interaction	1677.00	6	279.50	1.621	n.s.
Within	24990.00	145	172.34		
Total	28152.00	156			

$F(2,145;.05)=3.06$ $F(3,145;.05)=2.67$ $F(6,145;.05)=2.16$

[1]See as examples: Martin Haberman, "Twenty-three Reasons Universities Can't Educate Teachers," The Journal of Teacher Education Volume 22 (Summer 1971), pp.133-40; Paul A. Olson, Larry Freeman, James Bowman, Jan Pieper (eds.) The University Can't Train Teachers: A Symposium of School Administrators Discuss School-Based Undergraduate Education for Teachers (University of Nebraska: Nebraska Curriculum Development Center, 1972).

[2]Standards for Accreditation of Teacher Education (Washington, D.C.: National Council for Accreditation of Teacher Education, 1970).

[3]The definition presented here is drawn from the concept of evaluation presented by Egon G. Guba and Daniel L. Stufflebeam, "Evaluation: The Process of Stimulating, Aiding and Abetting Insightful Action," An Address Delivered at the Second National Symposium for Professors of Educational Research, Boulder, Colorado, November 21, 1968, 70pp. (mimeo).

[4]As evidence see "A Brief Summary of Evaluation Efforts by Various Colleges and Universities Relative to NCATE Standard #5 - - - Evaluation" (Washington, D.C.: National Council for Accreditation of Teacher Education, 1972).

[5]L.O. Andrews, "A Curriculum to Produce Career Teachers for the 1980's," Theory Into Practice Volume 6 (December 1967), pp. 236-45; B. Othanel Smith, et.al., Teachers for the Real World (Washington, D.C.: American Association of College Teachers of Education, 1969).

[6]This need has been given official sanction in the standards adopted by NCATE in 1970. See Standard 1.3.3c,e,f op cit., p. 6.

[7]For the complete report of the study see Patricia Mills, "An Investigation of Changes in Selected Elements of Pre-Service Teacher Behavior Associated with an Innovative Course in Teacher Education," Department of Education, Bowling Green State University, 1972, 81pp. (mimeo), available upon request from the author.

[8]Joseph J. Schwab, "What Do Scientists Do?" Behavioral Science Volume 5 (January 1960), pp. 1-27.

[9]Milton Rokeach, The Open and Closed Mind (New York: Basic Books, 1960).

[10]Julian B. Rotter, "Generalized Expectancies for Internal Versus External Control of Reinforcement," Psychological Monographs: General and Applied Volume 80 (1966), pp. 1- 8.

[11]Raymond B. Cattell, Herbert W. Eber and Maurice M. Tatsuoka, Handbook for the Sixteen Personality Factor Questionnaire (Champaign, Illinois: Institute for Personality and Ability Testing, 1970).

[12]The rationale for the development of these instruments was taken from J.W. Getzels and E.G. Guba, "Role, Role Conflict, and Effectiveness: An Empirical Study," American Sociological Review Volume 19 (April 1954), pp. 164-175.

[13]James K. Duncan and John B. Hough, The Teaching Situation Reaction Test (Columbus, Ohio: The Ohio State University, 1966).

[14]Walter W. Cook, Carroll H. Leeds and Robert Callis, Minnesota Teacher Attitude Inventory (New York: The Psychological Corporation, 1951).

[15]Cattell, et. al., op. cit., p. 170.

[16]These findings, however, should be viewed with caution due to the possibility that statistical significance may be associated with the proliferation of t-tests.

[17]To account for any initial differences among the groups, analysis of covariance was utilized in comparison of all posttest scores.

[18]Rotter, op. cit.

[19]Ibid.

[20]Ronald N. Marso and Robert L. Reed, "A Study of the Instructional Skills and Abilities of BGSU Elementary Education Majors and Graduates as Perceived by Principals, First-Year Teachers, Student Teachers, and Cooperating and Supervising Teachers of Student Teachers," A Report Prepared for the College of Education, Bowling Green State University, February, 1972. (mimeo.)

[21]H.J. Butcher, "The Attitudes of Student Teachers to Education: A Comparison with the Attitudes of Experienced Teachers and a Study of Changes During the Training Course," British Journal of Social and Clinical Psychology Volume 4 (May 1965), pp. 17-24; Benjamin Wright and Shirley Tuska, "The Effects of Institution on Change in Self-Conception During Teacher Training and Experience," Proceedings of 73rd Annual Convention, American Psychological Association (Washington, D.C.: the Association, 1965), pp. 299-300.

[22]Joseph J. Schwab, "The Practical: A Language for Curriculum," School Review Volume 78 (November 1969), pp. 1-23.